

Claims

1. Continuous intermediate image carrier for an electrophotographic printer or copier,
5 Characterized in that the electrical conductivity of the intermediate image carrier (20, 46) in the thickness direction and between two measurement points (B1, B2) essentially opposite one another is smaller than between two laterally-offset measurement points (A1, B2).
- 10 2. Intermediate image carrier according to claim 1, characterized in that a toner image (22) made up of electrically-charged toner particles and present on an image carrier (12) can be transferred onto the intermediate image carrier (20, 46) in a first transfer printing region (10),
15 In that the transferred toner image can be transferred from the intermediate image carrier (20, 46) onto a final image carrier (36) in a second transfer printing region (30), and
In that the transfer of the toner image in the first transfer printing region and in the second transfer printing region (10, 30) is at least abetted by respectively one electrical field active on the toner particles.
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3. Intermediate image carrier according to any of the preceding claims, characterized in that the electrical conductivity of the intermediate image carrier (20, 46) between the laterally-offset measurement points (A1, B2) is at least so great that the ignition voltage of a gas discharge is prevented
25 between the intermediate image carrier (20, 46) and the image carrier (12).
4. Intermediate image carrier according to any of the preceding claims, characterized in that the electrical conductivity of the intermediate image carrier (20, 46) between the two laterally-offset measurement points (A1, B2) is at least so low that a sufficiently large electrical field can be
30 generated for transfer of the toner image from the intermediate image

carrier (20, 46) onto a final image carrier (36) as well as from an image carrier (12) onto the intermediate image carrier (20, 46).

5. Intermediate image carrier according to any of the preceding claims,
5 characterized in that the electrical conductivity of the intermediate image carrier (20, 46) between the two essentially opposite measurement points (B1, B2) is at least so low that partial discharges on the surface of the intermediate image carrier (20, 46) are prevented.
- 10 6. Intermediate image carrier according to any of the preceding claims, characterized in that the electrical conductivity of the intermediate image carrier (20, 46) transverse to the circumference in the direction of the carrier plane is at least so low that a sufficiently large electrical field for transfer of the toner image can be generated at a transfer printing point (10,
15 30) for transfer of toner images [sic].
7. Intermediate image carrier according to any of the preceding claims, characterized in that the laterally-offset measurement points (B1, B2) are arranged offset in the circumferential direction and/or transverse to the
20 circumferential direction.
8. Intermediate image carrier according to claim 7, characterized in that the conductivity between the measurement points transverse to the circumferential direction is smaller than the transverse resistance between
25 measurement points in the circumferential direction.
9. Intermediate image carrier according to any of the preceding claims, characterized in that the intermediate image carrier (20, 46) is a transfer belt or a transfer drum.

10. Intermediate image carrier according to any of the claims 2 through 9, characterized in that the image carrier (12) is a photoconductor, in particular a photoconductor belt or a photoconductor drum.
- 5 11. Intermediate image carrier according to any of the preceding claims, characterized in that a plurality of toner images can be transferred from the image carrier (12) onto the intermediate image carrier (20, 46) in a first operating mode, which toner images are essentially printed atop one another on the intermediate image carrier (20, 46), and in that the toner
10 images printed atop one another can be mutually transferred onto a final image carrier (36) in a second operating mode.
12. Intermediate image carrier according to any of the preceding claims, characterized in that the specific electrical resistance of the intermediate
15 image carrier (20, 46) in the thickness direction has a value in the range from $1 \text{ E} + 10 \text{ } \Omega\text{cm}$ to $1 \text{ E} + 12 \text{ } \Omega\text{cm}$.
13. Intermediate image carrier according to claim 12, characterized in that the
20 specific electrical resistance can be determined with the aid of a first electrical contact surface on the top side of the intermediate image carrier (20, 46) and a second contact surface essentially opposite the first contact surface on the underside of the intermediate image carrier (20, 46), whereby the measurement voltage is 800 volts direct voltage.
- 25 14. Intermediate image carrier according to any of the preceding claims, characterized in that the electrical conductivity of the intermediate image carrier (20, 46) on the surface is at least so great that an electrical flashover is prevented between the intermediate image carrier (20, 46) and a further image carrier (12, 36).

15. Intermediate image carrier according to any of the preceding claims,
characterized in that the electrical resistance of the intermediate image
carrier (20, 46) between the two laterally-offset measurement points (A1,
B2) on opposite sides of the intermediate image carrier (20, 46) has a value
5 in the range between $1 \text{ E} + 7 \text{ } \Omega\text{cm}$ and $1 \text{ E} + 11 \text{ } \Omega\text{cm}$, advantageously a
value in the range between $4 \text{ E} + 7 \text{ } \Omega\text{cm}$ and $5 \text{ E} + 8 \text{ } \Omega\text{cm}$.
16. Continuous intermediate image carrier for a toner image in an
electrophotographic printer or copier, characterized in that the intermediate
10 image carrier (20, 46) comprises at least two layers, whereby a first layer
arranged on the outer circumference of the intermediate image carrier has a
smaller conductivity than a second layer adjoining this first layer.
17. Continuous intermediate image carrier for a toner image in an
15 electrophotographic printer or copier, characterized in that the intermediate
image carrier (20, 46) comprises components with a high electrical
conductivity that are arranged such that the intermediate image carrier has a
higher conductivity between two laterally-offset measurement points (A1,
B2) than between two measurement points (B1, B2) that are essentially
20 directly opposite.